

REMARKS

This Amendment is responsive to the Office Action dated August 24, 2004. Claims 13 and 27 are amended.

Rejections under 35 U.S.C. §102

The Examiner rejected claims claim 13 and 27 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,355,076 to Gash in view of Applicants alleged admitted prior art. Applicant respectfully traverses this rejection.

It is respectfully submitted that the primary reference, Gash does not disclose all of the features of the present claimed invention.

To assist in the explanation, the features of the claimed invention will be described together with drawings A, B and C enclosed herewith. In the present inventive method recited in Claim 13, the first polyolefin layer 1 made of oriented polyolefin is firstly covered with the second polyolefin layer 2 as shown in the drawing A. Then, the first polyolefin layer 1 covered with the second polyolefin layer 2 is joined to another sheet 3 at the temperature below the melting point of the second layer 2 as shown in the drawing B.

The another sheet 3 in Claim 7, now canceled, will not be described, since the another sheet is not limited to a specific sheet. The another sheet 3 may be an oriented sheet or unoriented sheet. Further, the another sheet 3 may be an oriented polyolefin layer covered with an unoriented polyolefin layer. This is fully described on page 27, line 5 to line 23 in the specification.

With the present invention, the second polyolefin layer, i.e. low-melting polyolefin is softened and fused at joining or bonding step due to application of heat, and the first polyolefin layer 1 is joined through the second polyolefin layer 2 to another sheet 3. Further, since the temperature is below the melting point of the oriented polyolefin, the orientation in the first polyolefin layer is not affected in the joining step. And the oriented polyolefin of the first polyolefin layer has a LEC of not exceeding 5×10^{-5} , whereby the bonded article has the high level of rigidity and low level of size-change depend on temperature.

The oriented polyolefin having a LEC of not exceeding 5×10^{-5} cannot be readily bonded without heating it at a high temperature higher than the melting point. However, the orientation is degraded in such a case. With the present invention, the second layer functions as a bonding

layer, and thus joining can be achieved by heating it at a relatively low temperature below the melting point of the oriented polyolefin, and thus the orientation is not affected.

By contrast, Gash does not disclose such features at all. Gash merely disclose a two-step laminating method wherein the first film 11 is laminated with the second film 12 at a temperature in the range of atmosphere to a melting temperature of the film having the lowest melting point to form a composite 13 in the first step, as shown in drawing C. Then, in the second step, the composite 13 is subjected to heat treatment at elevated temperature to enhance the peel strength.

It is respectfully submitted that Gash does not disclose anything about the joining step of the present invention. Thus, it is respectfully submitted that that the rejection is improper because the applied art fails to teach each element of claims 1 and 27 as recited above. As a result, it is respectfully submitted that claims 1 and 27 are allowable over the applied art.

Withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C. §103

The Examiner rejected claims claim 14 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 4,355,076 to Gash in view of Applicants alleged admitted prior art as applied to claims 13 and 27. Applicant respectfully traverses this rejection.

Like Gash, Ikenaga et al. does not disclose such joining step. Ikenaga et al. merely describe process for a composite sheet wherein an oriented polyolefin film is directly bonded to another film. Ikenaga et al, does not suggest joining the oriented polyolefin layer covered with the unoriented polyolefin layer to another sheet at all.

As described in the foregoing, the features of the present invention is not described or suggested in any cited prior art.

Claim 14 depends from claim 13 and includes all of the features of claim 13. Thus, it is respectfully submitted that claim 14 is allowable at least for the reason claim 13 is allowable as well as for the features it recites.

Withdrawal of the rejection is respectfully requested.

The Examiner rejected claims 15, 16, 19, 21, 22 and 26 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 4,355,076 to Gash in view of Applicants alleged admitted prior art and further in view of U.S. Patent 4,311,660 to Barham et al. Applicant respectfully traverses this rejection.

Claims 15, 16, 19, 21, 22 depend from claim 13 and include all of the features of claim 13. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reason claim 13 is allowable as well as for the features they recite.

It is respectfully submitted that that none of the applied art, alone or in combination, teaches or suggests the features of claim 26 as recited above. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. As a result, it is respectfully submitted that claim 26 is allowable over the applied art.

Withdrawal of the rejection is respectfully requested.

The Examiner rejected claims 17, 18, 20, 23 and 24 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 4,355,076 to Gash in view of Applicants alleged admitted prior art and U.S. Patent 4,717,624 to Ikenaga et al. and further in view of U.S. Patent 4,311,660 to Barham et al. Applicant respectfully traverses this rejection.

Claims 17, 18, 20, 23 and 24 depend from claim 13 and include all of the features of claim 13. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reason claim 13 is allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

The Examiner rejected claim 25 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 4,355,076 to Gash in view of Applicants alleged admitted prior art and further in view of U.S. Patent 3,361,607 to Bruno et al. Applicant respectfully traverses this rejection.

Claim 25 depends from claim 13 and includes all of the features of claim 13. Thus, it is respectfully submitted that claim 25 is allowable at least for the reason claim 13 is allowable as well as for the features it recites.

Withdrawal of the rejection is respectfully requested.

Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. MIY-9007/DIV from which the undersigned is authorized to draw.

Dated: December 27, 2004

Respectfully submitted,

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Enclosures: Amendment Transmittal
Petition for Extension of Time (one month)
Drawings A, B and C